



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D6104-007

Job Sheet 178194



50799418

Part No: D6104-007

Job Qty: 10 ea

Part Name: Round Billet, 17-4



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 5/28/18

Job Tracking No:

Due Date: 6/25/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG REV B

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	10 pcs	6/25/18	6/25/18	0.00	0.00	Purchasing		JUN 11 2018
110	Packaging	10 pcs	6/25/18	6/25/18	0.00	0.00	Packaging2		JUN 11 2018
120	QC	10 pcs	6/25/18	6/25/18	0.00	0.00	QC18		JUN 11 2018
130	Packaging	10 pcs	6/25/18	6/25/18	0.00	0.00	Packaging3-2		JUN 11 2018
140	QC21-SA	10 Ea	6/25/18	6/25/18	0.00	0.00	QC21		JUN 21 2018

Part Op 100 - Issue P/O: 40067 b) Ø4.50" x 5.10" long
Descriptions: 110 - Ensure material certification is attached
120 - Ensure Material certification comply to Dwg D6104

MAY 31 2018

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DAS
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9-89

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6104-007P	17-4 SS Roundbar 4.50"Od	10 pcs (1 ea)	100-Purchasing	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6104-007P	10	0	0

Part Specifications

Specifications could not be found.

Plex 5/28/18 3:13 PM dart.lavoie.chantal

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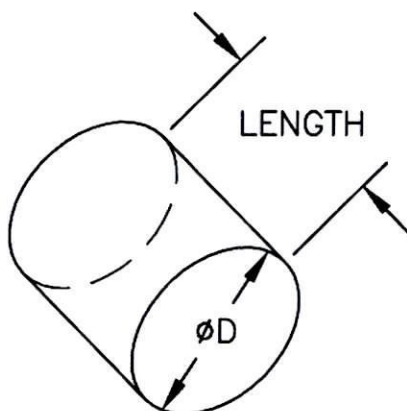


DESIGN 	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.29

SPECIFICATION CONTROL DRAWING



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRc)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 06104-007
 DATE: 11 JUN 11 2018
 9-89

PO / BATCH NO.: 040067/5079888

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 10 PCS
 QUANTITY INSPECTED: 10 PCS
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 4.500
 THICKNESS RECEIVED: 4.509
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	N	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	Am55643
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	Heat # 62817
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____
DATE: <u>11 JUN 11 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3617638

Ship From: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 08-JUN-18		F.O.B. ORIGIN		Freight Terms Prepaid		Carrier MANITOULIN	
						BOL No 3617638-2	

Shipment Details	Final Destination Branch - TOR
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Order No 5157979	Line No 1	Item No 14998.MO	Description 4.5000.RD.17CR-4NI.STAINLESS.RT.SOL TR.COND A.132.0000-156.0000 CUT TO 5.1 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AMS 5643				
Purchase Order No 40067		Part Number YOUR ITEM NUMBER: D6104-007	Ordered Qty 10.00 PCS			Invoice Qty 10.00 PCS	
Details		ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No. 121867572	Mill/Source NORTH AMERICAN STAINLESS	Heat Number 	Mech Id	PCS 10	Width (IN)	Length (IN)	Shipped Qty(LBS) 236.4263

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Date Printed: 08-JUN-2018 02:49:45 PM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

JUN 08 2018





North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 381256 12 Mail To: Ship To: Date: 2/13/2018 Page: 1
Customer: 007209 001 CASTLE METALS CASTLE METALS Steel: 630(17-4)
2150 ARGENTIA ROAD 2150 ARGENTIA ROAD Finish: HR
MISSISSAUGA, ON L5N 2K7 MISSISSAUGA, ON L5N 2K7 Corrosion:
Your Order: 38993 NAS Order: PN 0087808 08 Heat Treat Code: 45,249 Red Ratio: 3.7 :1

PRODUCT DESCRIPTION:

Round Bar, Hot Rolled, Annealed, Rough Turned
UNS S17400; EN 10204 3.1, ASTM A484/16, MACRO OK, AMS 5643U
ASTM A564/13, AMS 2303F, ASME SA564-07, ASTM F899/12b
SOL. ANNEALED @ 1900F MIN FOR 1 HR MIN. and air cooled to RT
UT per API6A PSL3, ASTM A388-S1 criteria, UT passed
H900 MECH. PROPERTIES ARE CAPABILITY ONLY*

REMARKS:

COMPLIES W/REQUIREMENTS OF DFAR 252.225-7009 EU DIRECTIVE
2011/65/EU. RoHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION



Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BJ2786 4		4.5000		1,316	144.00	10	1	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

NAS Heat	CM	C %	CB %	CO %	CR %	CU %	MN %	MO %	N %	NI %
658H	US	.043	.323	.06	15.24	3.37	.79	.019	.020	4.17
	P %	S %	SI %	TA %	TI %					
	.020	.0136	.60	.0050	.0035					

MECHANICAL PROPERTIES

Product Id	l o c	d i c	HB No.	Grain No.	Ferrite %	TS-900CAP KSI	YS-900CAP KSI	E1-900CAP % 4D	RA-900CAP %	RC-900CAP No.	FREQ. No.
BJ2786 4	R	L	352.0	8.0	.07	204.52	179.11	11.50	44.74	42.0	.14

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

2/13/2018



North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 381256 12 Mail To: Ship To: Date: 2/13/2018 Page: 2
Customer: 007209 001 CASTLE METALS CASTLE METALS
2150 ARGENTIA ROAD 2150 ARGENTIA ROAD Steel: 630(17-4)
MISSISSAUGA, ON L5N 2K7 MISSISSAUGA, ON L5N 2K7 Finish: HR
Corrosion:
Your Order: 38993 NAS Order: PN 0087808 08 Heat Treat Code: 45,249 Red Ratio: 3.7 :1

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IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BJ2786 4		4.5000		1,316	144.00	10	1	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/14a

NAS Heat	CM
658H	US

MECHANICAL PROPERTIES

Product Id	1 d o i c r	SEV. No.
BJ2786 4	R L	.07

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

2/13/2018